

## **Grid West White Papers Comments: Answers to Questions from Lon Peters**

---

This document contains answers to a series of questions posed by Lon Peters regarding the release drafts of the Grid West design white papers issued by TSLG on April 28, 2005.

---

### General

1. What is the expected schedule for the market design related to British Columbia?

Answer: The detailed schedule for development of protocols, transmission agreements and will be determined after Decision Point #2, when the Grid West Development Board is in place. The questions related to British Columbia are not expected changes in the overall market and operational design, but rather to determine how to provide the desired services within the Canadian regulatory structure.

2. What is the expected schedule for the “next layer” of issues identified in each white paper?

Answer: The detailed schedule for development of protocols, transmission agreements and a tariff will be determined after Decision Point #2, when the Grid West Development Board is in place.

### Reconfiguration Service

1. What “existing scheduling flexibility” (ESF) is expected to be retained by those holding CETRs? (p. 1)

Answer: The holder of a CETR keeps all of its existing schedule flexibility except for any amount that it voluntarily chooses to offer and is actually sold in the Day-Ahead Reconfiguration (DA-RCS).

2. What does “partially traded” mean for a customer with a CETR? How will a customer with a CETR be informed of the portion of its ESFs that it retains? (p. 3)

Answer: A transmission customer making an offer of scheduling flexibility, will specify the flexibility it wished to retain which is called the Intended Retained Right (IRR). The flexibility not retained is offered into the DA-RCS. “Partially traded” means that only part of the offered flexibility has been traded in the DA-RCS. At the end of the auction, those who offered their scheduling flexibility will be notified through the Market Information System of the remaining flexibility, i.e., the original ESF less any amount of the offer used by the DA-RCS to issue IWRs to other parties. The process to determine the remaining flexibility is still to be fully worked out in the

## **Grid West White Papers Comments: Answers to Questions from Lon Peters**

next layer of development..

3. If a PTP customer with a CETR wants to trade a portion of its rights with another transmission customer, why does Grid West and the relevant transmission owner have to approve? (This seems to impair an existing right.) (p. 4) See also p. 5, which requires “registration” of bilaterally traded IWRs, but not “approval” by either Grid West or the relevant transmission owner.

Answer: Bilateral trade of a CETR does not require the approval of the owner or Grid West, although Grid West must be notified so that it can verify the usage by the purchasing party when it submits direct schedules to Grid West. Items 1 and 4 of the list on page 4 should have been deleted from the paper, but they were missed in editing prior to posting of the papers. IWRs can only be obtained through the RCS auction and not by “direct translation” as suggested by the two items that will be deleted from the final paper.

4. What is the “operating year”? Is it the same as a calendar year? (p. 4)

Answer: That is a choice yet to be made. A September-August water year was used in Figure 4a for illustration purposes, but it could also be a calendar year if that better suits the needs of the region.

5. What opportunities will there be for customers with ETRs to inspect and potentially challenge the development of the Transmission Rights Basecase? (p. 7; see also p. 8, which discusses “saved powerflow cases”)

Answer: The Transmission Rights Basecase is used to determine if any additional rights can be issued in response to requests. Since ETRs are unaffected by the preparation of the Transmission Rights Basecase, customers with ETRs would have no need to inspect and challenge the basecase. For clarification, there are two components to such a basecase: (1) the physical transmission system data which models transmission lines, transformers, capacitors, etc., and (2) the inventory of contractual transmission rights. The physical transmission data will be drawn from WECC cases and could be made available to all parties. The contractual inventory will be represented as an aggregation of injection and withdrawal rights on the system of each TO. This aggregated data will be available, but disaggregation is not necessary.

6. What is the difference between (a) offering ESF into the [DA-]RCS auction and (b) submitting Intended Retained Rights (IRRs)? In each case, what does the transmission customer tell Grid West, or are these just different terms for the same notification by the transmission customer? (p. 7)

## **Grid West White Papers Comments: Answers to Questions from Lon Peters**

Answer: These are two ways of saying the same thing. Transmission Customer (TC) submits its IRR into the DA-RCS, and Grid West then determines the offered ESF based on the transmission customer's CETR and its submitted IRR. The specification of an IRR simplifies the process by indicating the potential usage that must be protected by Grid West and then letting the algorithm determine what can be released among all the possible alternative patterns.

7. How detailed and public will the award and price postings be after the RCS is completed? (p. 7)

Answer: At a minimum the total awards, clearing prices and revised AFCs will be posted. The determination of how much additional data will be posted (quantities and locations for individual purchasers) will be addressed in the next layer of developmental work.

8. “Active IWRs” are defined on p. 9. What are some examples of “inactive IWRs”?

Answer: A customer who has received a response to a Translation Query will know what IWRs it could voluntarily offer into RCS; however, the customer would still schedule using the original right, i.e., the CETR. The Translation Query describes a potential IWR, which is “inactive” unless a sale offer is made.]

9. Footnote 23 refers to “ETR Subscription”. What is this?

Answer: The term “subscription” was meant to indicate the commitments to honor pre-existing transmission rights.

10. Will credit requirements for participation in the RCS be different from credit requirements already established for customers with ETRs? (p. 11)

Answer: Credit requirements have not been determined but would be determined in further development work (Layer 3, Layer 4 or later). In similar transmission auctions, credit requirements restrict the total dollar volume of purchase bids that can be made at any one time. How that relates to current credit requirements will have to be investigated in further work.

11. What does it mean to “validate data entry syntax”? (p. 11)

Answer: It means to check to see that data is in the correct order and that there are dollars in the dollar box and MWs in the MW box, etc.

12. What is the expected impact of ignoring losses in the IWR auction? (p. 11)

**Grid West White Papers Comments:  
Answers to Questions from Lon Peters**

Answer: The impact will be negligible. The ratio between the resistance and the inductive reactance of high voltage transmission lines (230, 345 and 500 kV) is on the order of 1 to 50 or greater, so the difference in total impedance magnitude (the square root of sum of the squares) is far less than 1/10 of one percent. Actual energy losses are scheduled when IWRs are used.

13. Will the value of the RCS/IWR auction be maximized separately for each auction?

Answer: Yes. Each auction is a separate optimization event and they will all use the same “objective function,” which awards IWRs based on the highest value bids for use of the transmission system.

14. The last sentence on p. 12 refers to the difference between a “maximum value” and something else. It is not clear what the “something else” is. If it is the “value of the IRRs”, what determines such a value, given that the IRRs are not offered into the auction? If the “something else” is not the value of the IRRs, what is it?

Answer: The “something else” is the value of IRRs determined by the IRR quantity and relevant clearing prices.

15. The discussion of DA-RCS on p. 13 implies that the submission of IRRs by transmission customers is different for the DA auction. If so, how?

Answer: Only the DA-RCS allows for the offering of scheduling flexibility, so the distinction is that you can only submit an IRR in the DA-RCS: IRRs cannot be submitted in the Annual, Monthly and Intra-Monthly RCS which do not address the sale of scheduling flexibility.

16. For a customer that does not convert to Grid West service and does not participate directly in the RCS auction, will the relevant transmission provider submit IRRs on behalf of that customer?

Answer: It will not. However, Grid West may consequently offer IWRs in the same fashion that transmission providers currently offer service, based on scheduled or expected usage patterns.

17. Why does Table 5.1 state that CETRs are relevant for DA-RCS only? How will Grid West treat CETRs in auctions other than DA?

Answer: The table is implicitly referring to release of scheduling flexibility from a CETR, which occurs only in the DA-RCS. If a customer with a CETR wishes to release rights in any auction, the customer will have to make a Translation Query to identify the IWRs it could release into any of the auctions. The certification process is a validation/verification tool that supports the RCS, not a “conversion” of rights into a different form.

**Grid West White Papers Comments:  
Answers to Questions from Lon Peters**

18. If IRRs are specified as a range in the DA-RCS auction, how will Grid West determine which point within the range to use in its determination of AFC, especially if such IRRs involve more than one scheduling point? (Table 5.1, p. 15)

Answer: The DA-RCS optimization software directly accounts for the capacity that needs to be held aside for committed use for IRRs given their ranges. It works to satisfy bids for IWRs, to the extent that it can make IWRs available from uncommitted capacity (implicitly released by the IRR) and IWRs offered for sale.

19. On p. 13 (§4.5), clearing prices for scheduling points are identified as public data. In Table 5.2 on p. 16, these prices are described as private data. Which is correct? If clearing prices are private data, what is the rationale?

Answer: While clearing prices at different nodes or zones are public information, the identity of buyers and sellers would be private. As noted in Question #7, the determination of how much data will be made public will be considered in the next layer of development.

20. Can customers who retain ETRs submit IRRs directly to Grid West in the DA-RCS auction? (Table 6)

Answer: Yes, but the ETR must be certified first (becoming a CETR) before scheduling flexibility can be offered.

21. In section 8, it appears that there are no intentions at this point to apply market power analysis in the RCS auction other than monitoring of certain results. If so, please reconcile this with the final bullet on p. 1, which states that market rules will address known market power concerns. If the only activity is monitoring of results, how does this activity address market power? (See also p. 21, which refers to preventative and auditable market rules; what are these?)

Answer: The TSLG's assignment was not to develop a market monitoring proposal; however the papers point out areas of concern. The design of detailed market rules and testing for the exercise of market power will take place as part of further work after Decision Point #2.

22. What do "cold standby" and "non-clustered" mean for system redundancy (p. 21)?

Answer: These terms refer to whether one or more copies of the data and auction software should be operated on one or more computers at one or more sites and how those computers are connected to each other. Specifically, cold standby means the back-up system is brought on line and placed in service manually. Non-clustered means that the computer systems are not configured into a set of connected systems monitored and controlled by cluster management software.

## **Grid West White Papers Comments: Answers to Questions from Lon Peters**

23. Does “no redundancy for the Secondary (fail-over) site of the RCS operation” mean that there is only one secondary site, or something else?

Answer: This means that if the software is running at two different sites (a primary and a secondary site), a back-up is not provided at the secondary site.

### Rights Data Management

1. If an existing transmission customer does not request certification of ETRs, must the relevant transmission provider(s) request such certification? (p. 1)

Answer: No.

2. If no entity requests certification, how is that right treated in Grid West markets? Is the ETR part of the “aggregated Transmission Owner obligations” referenced on p. 3?

Answer: It is part of the Physical Rights Inventory shown in Figure 4.1. The ETR is part of the aggregate obligations of the Transmission Owner.

3. Does a PTP customer who has chosen not to have Grid West certification of its ETRs have to register bilateral sales of unneeded PTP transmission rights with Grid West? (p. 4) If a sale is by blind assignment, where the PTP customer retains the scheduling obligation, and the PTP customer continues to schedule directly with its transmission provider, will the blind assignment become, in effect, part of the “aggregated Transmission Owner obligations”?

Answer: If a PTP customer chooses not to certify, the exercise of its transmission rights continues to be with the original transmission provider, to include rights to reassign its capacity, use it to schedule for others, etc. The “aggregate Transmission Owner obligations” are not altered by the activities of the PTP customer.

4. Why is the box related to the role of Transmission Customers in physical rights inventorying in Table 6.1 empty?

Answer: The transmission customers’ rights are unaffected and the transmission owner retains its role as a transmission provider. Grid West and the Transmission Owners determine the owners’ aggregate obligations, which go into the inventory, i.e., how much capacity in the system must be set aside to honor those obligations. Nothing changes for the transmission customer, so they have no involvement.

## **Grid West White Papers Comments: Answers to Questions from Lon Peters**

### Scheduling and Schedule Adjustments

1. If Grid West plans to use *pro rata* curtailments to resolve infeasibility, what is the value added by Grid West to the current system of congestion management?

Answer: The current system of curtailing for transmission problems usually occurs in real-time, and it is done by individual transmission systems on a contract path basis. No party can see the effects the change they make will have on other parts of the regional system nor predict what actual change in dispatch will occur. For this reason, curtailments may over-correct for a problem one time and then next time they may have no effect. Because of contract path scheduling rules, curtailments can also occur even when a line is not fully loaded.

Because Grid West will receive all scheduled uses of the transmission system day-ahead, it will be able to test for system-wide feasibility and see problems before they occur in real time. By dealing with problems during the scheduling and schedule adjustment period, scheduling parties will have more time to consider options for alternative means of covering their load. As schedule changes are made during the schedule adjustment period, Grid West will be able to assure that changes will not create new problems. Finally by having all of the GWMT capacity under its control with flow-based scheduling, curtailments will be based on whether a line is actually loaded, as opposed to whether an artificial “contract path schedule limit” has been exceeded. So curtailments will occur less often, and will be more predictable.

2. If physical curtailments are required, will Grid West notify the Transmission Owner (TO) who has submitted an aggregated obligation, and the TO will then notify the transmission customer?

Answer: Further work is needed to determine the procedure. However, TOs will submit individual schedules for their customers, not an aggregated obligation. Notifications will likely be made to TOs for schedules submitted by them.

3. If Grid West orders a curtailment, and different TOs use different curtailment methodologies, how will Grid West ensure that the result is feasible?

Answer: Grid West will receive the schedule change(s) from the TO as a change in injections and withdrawals which can then be tested for feasibility.

4. If a transmission customer with an ETR changes its schedule post day-ahead, will the transmission owner submit a new aggregated obligation to Grid West?

Answer: The Transmission Owner will submit any schedule changes (as injections and withdrawals) that it accepts from ETR customers.

## **Grid West White Papers Comments: Answers to Questions from Lon Peters**

5. What is the basis for the conclusion that “only small and infrequent adjustments to submitted balanced schedules are expected”? (p. 12)

Answer: Given the requirement to hold physical transmission rights to submit a schedule, situations are avoided where a party could submit a set of schedules to be paid for relieving congestion, only to submit another batch of schedules to do something quite different than indicated by the original schedule. In the absence of such perverse incentives, there is no reason for transmission customers to not schedule their best estimate of expected load and the resources they expect to use to cover that load. It is fully expected that actual load will deviate from load estimates, that units will drop off line, and that opportunities will become available post-day ahead. The volume of these changes should be similar to what Transmission Owners see today.

### Auction Pricing

1. Has the TSLG considered the theory of affiliated information in auction design, which concludes that ascending price auctions are lower cost when information is affiliated rather than independent? (See Klemperer, P. 2004. *Auctions: Theory and Practice*.) The existence of the PNCA would seem to imply that suppliers in the Northwest possess affiliated information, which argues against market-clearing prices. Also, concern about market-clearing auctions was significant enough in England that the regulatory switched to discriminatory (AOP) auctions in the late 1990s.

Answer: No. The choice of a clearing price auction was made based on the information and practical considerations provided in the paper.

2. Does Grid West expect to rely on MCP auctions for the recovery of the fixed costs of generation? If so, which auctions developed so far would be used for this purpose? If not, then what is the purpose of the argument against discriminatory auctions on p. 4 regarding the recovery of fixed costs?

Answer: No, the Grid West auctions are not used for recovery of generation fixed costs per se. The bulk of the fixed costs of generation will be recovered as they always have been by generation owners, i.e., primarily under long-term wholesale contracts and tariffed retail service with a contribution being made to lowering those rates by economy transactions. Offers to provide balancing or reserve to Grid West will be another form of economy transaction, because they provide sellers with an incremental sales opportunity. The argument in the paragraph on page 4, refers to the profit maximization behavior of a seller, with the incremental gain being termed a incremental contribution to its fixed costs.